

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method of processing images, wherein
inputted image data is subjected to image processes and the processed image data is
outputted, comprising the steps of
sequentially dividing inputted image data into small blocks of image data, each having a
data volume according to the characteristics of an image process to be performed,
sequentially performing an image process on said small blocks of image data to
sequentially obtain processed small blocks of image data,
and sequentially outputting said processed small blocks of image data to an output device
which is separate from an apparatus performing said image process.
2. (original): A method of processing images as defined in claim 1, wherein
said inputted image data is divided into said small blocks of data in accordance with the
access characteristics of said inputted image data.
3. (original): A method of processing images as defined in claim 1, wherein
said inputted image data is cached, and
said cached inputted image data is divided into the small blocks of image data.
4. (previously presented): A method of processing images as defined in claim 1,
wherein
said processed small blocks of image data are sequentially cached, and

output data is outputted from said cached processed small blocks of image data, according to the characteristics of the output device.

5. (previously presented): A method of processing images as defined in claim 1, wherein

the image processes are performed in accordance with the characteristics of the inputted image data and/or the characteristics of the output device.

6. (previously presented): A method of processing images as defined in claim 1, wherein

a determination is made as to whether or not the image process dependent on the output device is valid or not, based on the characteristics of the input destination of the inputted image data and the output characteristics of the output device, and

for cases in which it is determined that the image process dependent on the output device is valid, the processing dependent on said output device is substituted for the aforementioned processing.

7. (previously presented): An image processing apparatus for subjecting inputted image data to image processes and output processed image data, and which comprises

an input means for sequentially dividing inputted image data into small blocks of image data according to the characteristics of the image processes to be performed,

a processing means for sequentially subjecting said small blocks of image data to an image process to sequentially obtain processed small blocks of image data, and

an output means for sequentially outputting said processed small blocks of image data to an output device which is separate from an apparatus performing said image process.

8. (original): An image processing apparatus as defined in claim 7, wherein the input means is a means for dividing the inputted image data into small blocks in accordance with the access characteristics of said inputted image data, also.

9. (original): An image processing apparatus as defined in claim 7, further comprising
an input caching means for caching the inputted image data, wherein the input means is a means for dividing the cached inputted image data into small blocks of image data.

10. (previously presented): An image processing apparatus as defined in claim 7, further comprising
an output caching means for sequentially caching the processed small blocks of image data, wherein
the output means is a means for outputting output data from said cached small blocks of image data according to the characteristics of the output device.

11. (previously presented): An image processing apparatus as defined in claim 7, wherein
the image processing means is a means for performing image processes based on the characteristics of the inputted image data and/or the characteristics of the output device.

12. (previously presented): An image processing apparatus as defined in claim 7, further comprising

a control means for determining whether the image process dependent on the output device of the inputted image data is valid, based on the characteristics of the input device of the inputted image data and the output characteristics of the output device, and

controlling, for cases in which it has been determined that the image process dependent on the output device is valid, the image processing means so that the processing dependent on the output device is performed instead of the aforementioned processing.

13. (previously presented): A computer readable storage medium capable of recording a program that causes a computer to execute the image processing method wherein inputted image data is subjected to an image process and the thus processed image data is outputted, comprising

a procedure for sequentially dividing inputted image data into small blocks of image data, each having a data volume according to the characteristics of an image process to be performed,

a procedure for sequentially performing an image process on said small blocks of image data to sequentially obtain processed small blocks of image data,

and a procedure for sequentially outputting said processed small blocks of image data to an output device which is separate from an apparatus performing said image process.

14. (previously presented): A computer readable storage medium as defined in claim 13, wherein

the procedure for dividing the inputted image data into the small blocks of data is a procedure for dividing the inputted image data into the small blocks of data in accordance with the access characteristics of said inputted image data.

15. (original): A computer readable storage medium as defined in claim 13, further comprising

an input caching procedure for caching the inputted image data, wherein

the procedure for dividing the inputted image data into the small blocks of data is a procedure for dividing the cached inputted image data into the small blocks of image data.

16. (previously presented): A computer readable storage medium as defined in claim 13, further comprising

an output caching procedure for sequentially caching the small blocks of processed image data, wherein

the procedure for outputting the small blocks of processed image data is a procedure for outputting output data from said cached small blocks of processed image data according to the characteristics of the output device.

17. (previously presented): A computer readable storage medium as defined in claim 13, wherein

the procedure for obtaining the small blocks of processed image data is a procedure for performing image processes based on the characteristics of the inputted image data and/or the characteristics of the output device.

18. (previously presented): A computer readable storage medium as defined in claim 13, further comprising

a control procedure for determining whether the image process dependent on the output device of the inputted image data is valid, based on the characteristics of the input device of the inputted image data and the output characteristics of the output device, and

a procedure for performing, for cases in which it has been determined that the image process dependent on the output destination is valid, the image processing procedure so that the processing dependent on the output destination is performed instead of the aforementioned processing.

19. (previously presented): A method of processing images as defined in claim 1, wherein

the step of sequentially dividing the inputted image data into small blocks of image data comprises receiving the inputted image data line by line at a first memory and

the step of sequentially performing the image process comprises:

first processing a_1 lines of the inputted image data to generate first data when b lines of image data have been received at the first memory, b being greater than a_1 ;

storing the first data in a second memory; and

second processing a_2 lines of the first data stored in the second memory.

20. (previously presented): A method of processing images as defined in claim 19, wherein the first processing is x direction enlargement and the second processing is y direction enlargement.

21. (previously presented): A method of processing images as defined in claim 19, wherein the first processing is color space conversion and the second processing is resolution conversion.

22. (previously presented): A method of processing an image divided into a plurality of portions comprising a first portion, a second portion and a third portion, said method comprising the steps of:

storing the first portion in a first memory;

first processing the first portion stored in the first memory in a first image process to generate a processed first portion and storing the second portion in the first memory, the operation of first processing the first portion and the operation of receiving the second portion in the first memory substantially occurring in parallel;

storing the processed first portion in a second memory; and

second processing a portion of the processed first portion stored in the second memory in a second image process to generate a processed output, first processing the second portion stored in the first memory in the first image process and storing the third portion in the first memory, the operation of second processing the portion of the processed first portion, the operation of first processing the second portion and the operation of storing the third portion in the first memory substantially occurring in parallel,

wherein each of the first portion, the second portion and the third portion has a corresponding image data having a data volume according to characteristics of at least one of the first image process and a second image process and

the second processing outputs the processed output to an output device which is separate from an apparatus performing said image process.

23. (previously presented): A method of processing images as defined in claim 22, wherein the first image process is x direction enlargement and the second image process is y direction enlargement.

24. (previously presented): A method of processing images as defined in claim 22, wherein the first image process is color space conversion and the second image process is resolution conversion.

25. (previously presented): A method of processing images as defined in claim 2, wherein the access characteristics of said inputted image data comprises format type of image data.

26. (previously presented): A method of processing images as defined in claim 2, wherein the access characteristics of said inputted image data comprises format type of image data including JPEG format, bitmap format and RAW format.

27. (new): A method of processing images as defined in claim 21, wherein a portion of the inputted image data undergoes the x direction enlargement at the same time another portion of the inputted image data is undergoing the y direction enlargement.

28. (new): A method of processing images as defined in claim 22, wherein a portion of the inputted image data undergoes the color space conversion at the same time another portion of the inputted image data is undergoing the resolution conversion.